

## DOE – Medical and Infectious Disease Update – Wednesday, June 30, 2004

DOE weekly updates on Bird Flu, Human Influenza, West Nile Virus, or other illnesses and medical issues will continue as appropriate or as requested. The following information is current as of Thursday, July 01, 2004, 0700 hours, EST. Information presented is routinely taken from [The Centers for Disease Control and Prevention \(CDC\)](http://www.cdc.gov/), [The World Health Organization \(WHO\)](http://www.who.int/en/), <http://www.who.int/en/>, the Department of Defense [Global Emerging Infections Surveillance and Response System](http://www.geis.fhp.osd.mil/), (DoD-GEIS), <http://www.geis.fhp.osd.mil/>, and other creditable sources.

### Recent News

**West Nile Virus Activity** – Through 29 June 2004, there have been a total of **57 cases, and 1 death**. See pages 3-4 of this update for details.

**ALLERGY** [The Accuweather page](http://www.accuweather.com/adcbn/public/maps_index.asp?type=airq) provides current air quality information with specific charts for [Grass Pollen](#), [Overall Pollen](#), [Ragweed Pollen](#), and [Tree Pollen](#) ... [http://www.accuweather.com/adcbn/public/maps\\_index.asp?type=airq](http://www.accuweather.com/adcbn/public/maps_index.asp?type=airq).

**Bird Flu Strain May Threaten Humans** – 30 June 2004, by **The Associated Press** via The New York Times, WASHINGTON --A type of bird flu that has killed millions of chickens is becoming more infectious to mammals. Scientists fear it could cause the next worldwide pandemic in humans. The avian flu has forced authorities to slaughter millions of chickens and other fowl in Asia to stem outbreaks in recent years. Thousands more have been killed in the United States and elsewhere. Already the flu has passed from birds to humans in Hong Kong, killing six of 18 people infected in 1997, and human cases have been reported since then in Vietnam and Thailand. Now, China-based researchers studying the H5N1 strain of the flu report that it has been changing over the years to become more dangerous to mammals. Their research, based on tests in mice, is reported in Monday's issue of Proceedings of the National Academy of Sciences. "Our results demonstrate that while circulating in domestic ducks, H5N1 viruses gradually acquired the characteristics that make them lethal in mice," reported the team led by Hualan Chen of the Animal Influenza Laboratory of the Chinese Ministry of Agriculture ... <http://www.nytimes.com/aponline/health/AP-Bird-Flu.html>. (Note: The NY Times Web service is free but requires that you register on their site, a relatively painless process - Ed.)

**Wakefulness Finds a Powerful Ally** – 29 June 2004, by Anahad O'Connor, **The New York Times** --Laurie Coots, a marketing executive who flies to meetings in other countries twice a week, spent years trying to conquer sleepless nights and chronic jet lag. But nothing worked, she says, and every day was a struggle to stay awake ... Then she found [modafinil](#), a small white pill that revs up the central nervous system without the jitteriness of caffeine or the addiction and euphoria of amphetamines. "Without it my life would not be possible," she said. Since 1998, modafinil, made by Cephalon and sold under the brand name [Provigil](#), has quietly altered the lives of millions of people. No one knows exactly how it works, but sales of the drug are skyrocketing. People who take it say it keeps them awake for hours or even days ... <http://www.nytimes.com/2004/06/29/health/29wake.html>. (Note: The NY Times Web service is free but requires that you register on their site, a relatively painless process - Ed.)

**Hormone peak differs in thin men, study finds: Research shows promise for obesity treatment** – 29 June 2004, **CNN**, WASHINGTON (Reuters) -- A hormone that affects hunger acts in surprising and different ways in lean and fat men -- a finding that may offer new ways to treat obesity, U.S. researchers have reported. Tests on 10 men showed the thin men had an overnight spike in the hormone, called ghrelin, while the five fat men did not. Ghrelin is the latest in a line of hormones discovered in recent years that act on appetite and eating behaviors. Another hormone, called leptin, makes fat rats lose weight when injected but in humans has little effect -- showing that these compounds interact in complex ways in people. Dr. Julio Licinio, a professor of

psychiatry and medicine at the University of California Los Angeles and colleagues tested 10 volunteers, keeping them overnight in their lab and carefully feeding them a controlled diet. They took regular blood samples and tested ghrelin levels, among other things ...

<http://www.cnn.com/2004/HEALTH/diet.fitness/06/29/fat.hormone.reut/index.html>.

**Supreme Court to Hear Case on Medical Pot** – 29June2004, by *David Kravets, The Associated Press*, SAN FRANCISCO --The U.S. Supreme Court agreed Monday to decide whether the federal government can prosecute sick people who smoke marijuana on the advice of a doctor. The case involves the Bush administration's appeal of a case it lost last year involving two California women who say pot is the only drug that eases their chronic pain and other medical problems. The case also affects Alaska, Arizona, Colorado, Hawaii, Maine, Nevada, Oregon and Washington state, which have medical marijuana laws similar to California's allowing patients to grow, use or receive marijuana if they have a doctor's recommendation. Thirty-five states in all have passed legislation recognizing marijuana's medicinal value. Patients' rights groups immediately hailed the high court's decision to hear the case. "The Supreme Court has a chance to protect the rights of patients everywhere who need medical cannabis to treat their afflictions," said Steph Sherer, executive director of Americans for Safe Access ... <http://www.washingtonpost.com/wp-dyn/articles/A14260-2004Jun29.html>.

**Race for SARS vaccine won by a nose?** – 28June2004, *Aljazeera* (Reuters) – The first nasal vaccine for severe acute respiratory syndrome (SARS) may be so effective that only one dose is needed. Developed in the US, scientists at the National Institute of Allergy and Infectious Diseases in the state of Maryland appear to have taken the lead in the race to develop a cure. Dr Peter Collins explained the reason for his team's optimism: "The nose is where the infection attacks, so it is very effective." SARS, caused by a virus similar to the common cold, emerged in southeast Asia in late 2002 and killed nearly 800 people in 2003. Outbreaks have been controlled but the disease might re-emerge. The US team has tested its nasal vaccine in monkeys and found that it prevented SARS infection with a single dose. But the vaccine is effective only in children ...

<http://english.aljazeera.net/NR/exeres/3F782401-4756-4317-9C78-91C858415627.htm>.

**Tooth growing experiments bring smiles** – 24June2004, by *James Randerson, NewScientist* --Remarkable progress has been made towards growing replacement teeth from stem cells, according to a paper published this week. But major obstacles remain before this could be attempted in people. Paul Sharpe's team at King's College London is one of several worldwide attempting to grow replacement teeth (New Scientist print edition, 10 August 2002, p 32). There was a flurry of publicity about Sharpe's work recently, with many reports implying that his method had been successfully tested in mice. But the details of Sharpe's experiments (Journal of Dental Research, vol 83, p 513) show the team still has some way to go. The tooth buds, or primordia, from which teeth grow consist of two cell types, epithelial and mesenchymal cells. As a replacement for the mesenchyme, Sharpe's team used bone marrow stem cells from 6-week-old mice ...

<http://www.newscientist.com/news/news.jsp?id=ns99996061>.

**Doctors discover a toddler muscle man** – 23June2004, by *Linda A. Johnson, Associated Press* --Somewhere in Germany is a baby Superman, born in Berlin with bulging arm and leg muscles. Not yet 5, he can hold seven-pound weights with arms extended, something many adults cannot do. He has muscles twice the size of other kids his age and half their body fat. DNA testing showed why: The boy has a genetic mutation that boosts muscle growth. The discovery, reported in Thursday's New England Journal of Medicine, represents the first documented human case of such a mutation. Many scientists believe the find could eventually lead to drugs for treating people with muscular dystrophy and other muscle-destroying conditions. And athletes would almost surely want to get their hands on such a drug and use it like steroids to bulk up. The boy's mutant DNA segment was found to block production of a protein called myostatin that limits muscle growth. The news comes seven years after researchers at Johns Hopkins University in Baltimore created buff "mighty mice" by "turning off" the gene that directs cells to produce myostatin ...

[http://www.dailycamera.com/bdc/nation\\_world\\_news/article/0,1713,BDC\\_2420\\_2984793,00.html](http://www.dailycamera.com/bdc/nation_world_news/article/0,1713,BDC_2420_2984793,00.html).

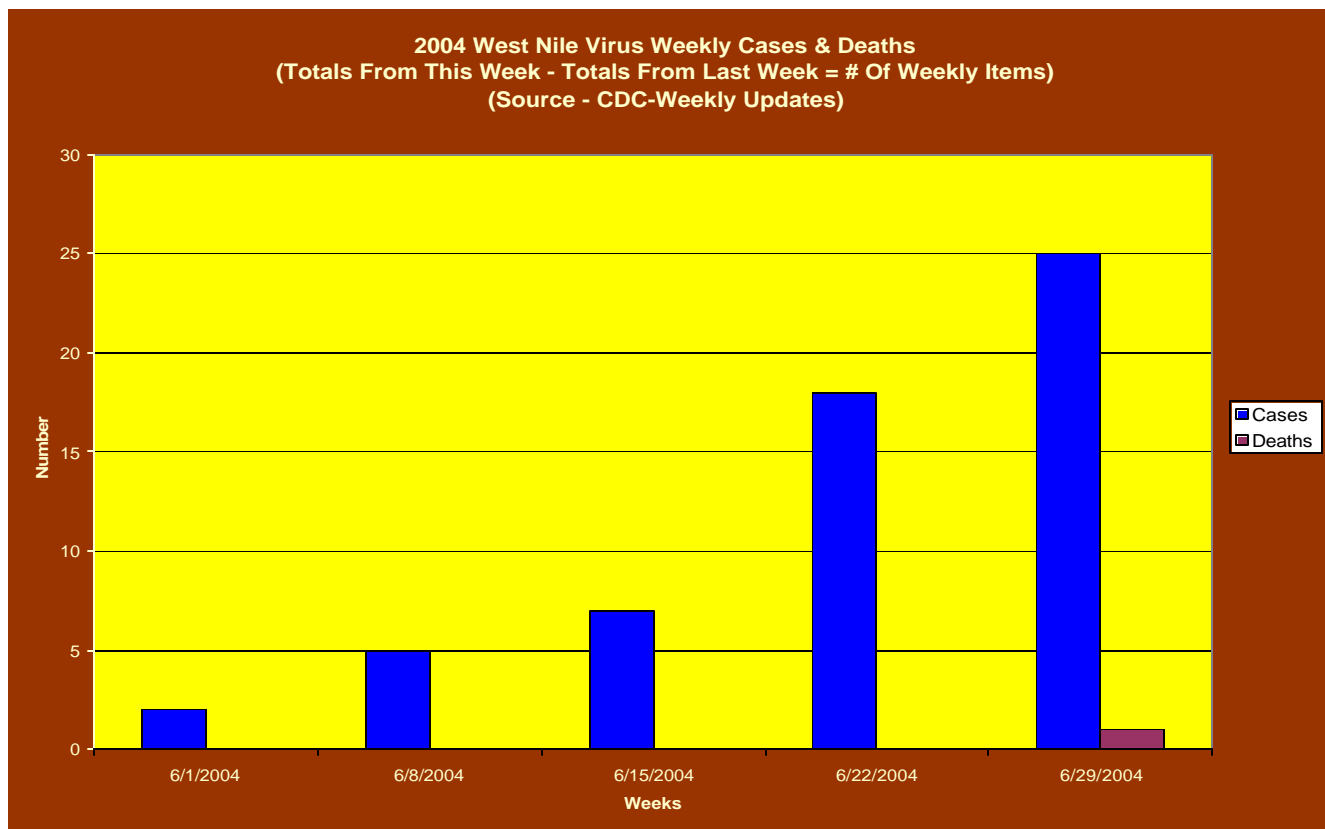
**2004 West Nile Virus Activity in the United States, reported to CDC. (WNV)** – Through 29 June 2004, there have been a total of 57 cases & 1 death from 8 states. 25 new cases and 1 death (Arizona) were added this past week.

**WNV State Cases and Deaths** – [For additional 2004 information, click here](#)

State	<u>Neuroinvasive disease</u>	<u>Fever</u>	<u>Other Clinical/ Unspecified</u>	<u>Total Human Cases Reported to CDC</u>	<u>Deaths</u>
Arizona	29	6	3	38	1
California	3	7	0	10	0
Florida	1	1	0	2	0
Michigan	1	0	0	1	0
Nebraska	0	1	0	1	0
New Mexico	0	3	0	3	0
South Dakota	1	0	0	1	0
Wyoming	0	1	0	1	0
<b>Total</b>	<b>35</b>	<b>19</b>	<b>3</b>	<b>57</b>	<b>1</b>

[http://www.cdc.gov/ncidod/dvbid/westnile/surv&controlCaseCount04\\_detailed.htm](http://www.cdc.gov/ncidod/dvbid/westnile/surv&controlCaseCount04_detailed.htm)

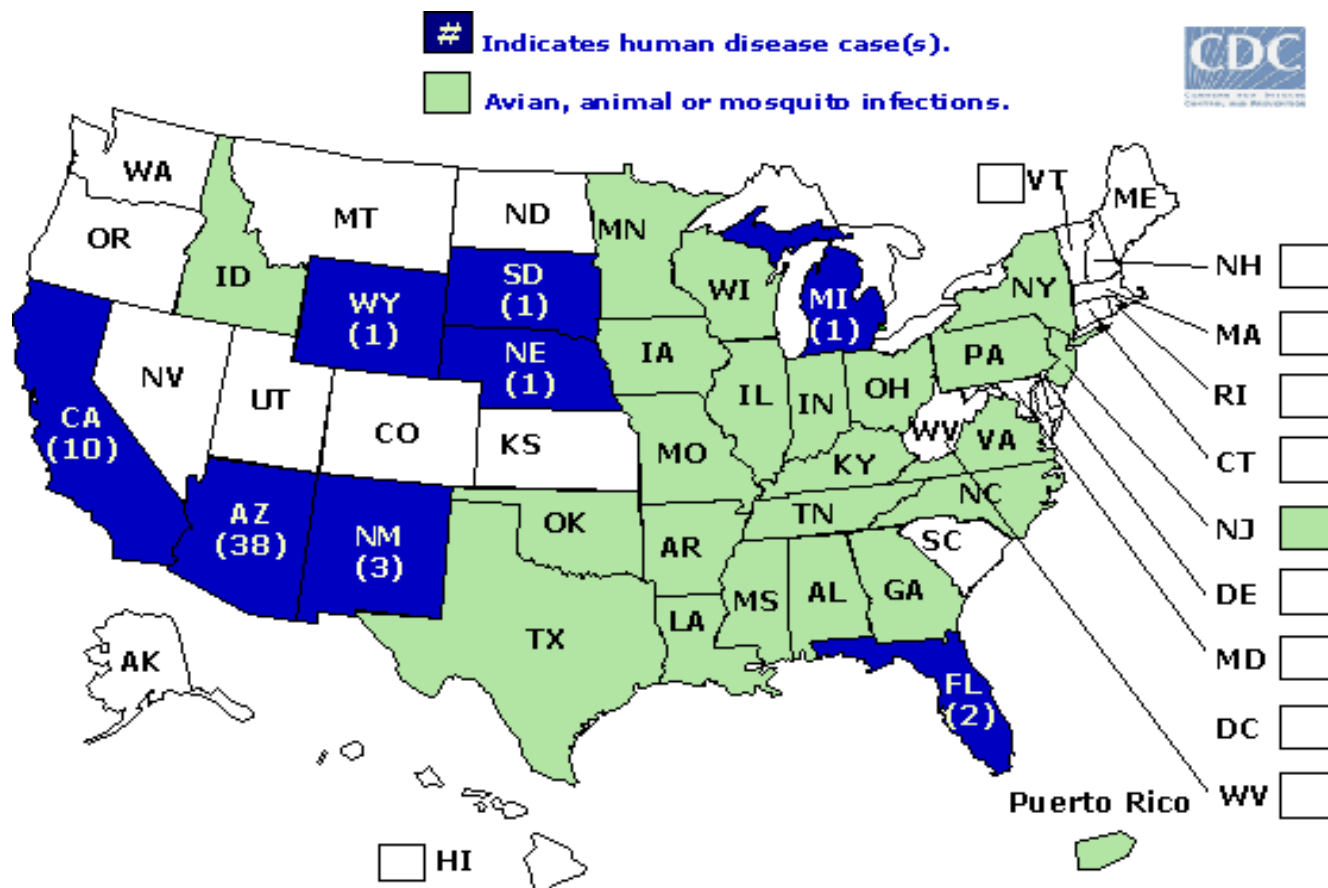
**WNV Weekly Cases and Deaths**



**2004 West Nile Virus Activity in the United States, reported to CDC.** Maps reporting WNV avian and veterinary activity occurring during 2004 are updated regularly. **For the week ending 29 June 2004, there were a total of 25 new cases and 1 death.**

**2004 West Nile Virus Activity in the United States  
(reported to CDC as of June 29, 2004\*)**

<http://www.cdc.gov/ncidod/dvbid/westnile/surv&control04Maps.htm>



\*Currently, WNV maps are updated regularly to reflect surveillance reports released by state and local health departments to the CDC ArboNet system for public distribution. Map shows the distribution of avian, animal, or mosquito infection occurring during 2004 with number of human cases. If West Nile virus infection is reported to CDC ArboNet in any area of a state, that entire state is shaded accordingly.

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